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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,479	08/14/2006	William Veronesi	60469-092PUS1;PA-000.0519	8352

64779 7590 02/04/2010  
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EXAMINER
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WEST, JEFFREY R

ART UNIT	PAPER NUMBER
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2857

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,479	<b>Applicant(s)</b> VERONESI ET AL.	
	<b>Examiner</b> Jeffrey R. West	<b>Art Unit</b> 2857	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 17-25 is/are rejected.
- 7) ☒ Claim(s) 7-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### ***Response to Amendment***

2. In view of the Response filed on January 11, 2010, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

### ***Claim Objections***

3. Claims 4, 17, and 19 are objected to because of the following informalities:

In claim 4, line 2, to avoid problems of antecedent basis, "the values" should be ---the plurality of the apparent electrical characteristic values---.

In claim 17, line 6, to avoid problems of antecedent basis, "measured characteristic" should be ---measured electrical characteristic---.

In claim 19, line 2, to avoid problems of antecedent basis, "those values" should be ---the plurality of the apparent electrical characteristic values---.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1, 2, 21, 22, and 25 are rejected under 35 U.S.C. 102(a) as being anticipated by JP Patent Publication No. 2004075221 to Maeda et al.

With respect to claim 1, Maeda discloses a method of modeling a condition of an elevator tensile support (0008, lines 2-14) comprising; determining a rate of degradation of the tensile support for a selected load using at least one sample tensile support and a fatigue machine (0020, lines 1-6 and 0023, lines 1-4); modeling a configuration of at least one selected elevator system (0012, lines 1-10 and 0016, lines 1-5); estimating an elevator traffic pattern (0016, lines 1-5); determining sheave contact and load information using the modeled configuration and the estimated traffic pattern (0016, lines 5-10); and determining a mean degradation of the tensile support from the determined rate of degradation and the determined sheave contact and load information (i.e. a range of damage values over a plurality of positions of the rope) (0021, lines 6-14).

With respect to claim 2, Maeda discloses determining a plurality of mean degradation values by varying at least one of the modeled configuration or the estimated elevator traffic pattern (0021, lines 6-14).

With respect to claim 21, Maeda discloses a controller useful for determining a condition of an elevator tensile support (0008, lines 2-14), inherently comprising a storage medium containing programming (0016, lines 2-13) for determining a rate of degradation of the tensile support for a selected load (0020, lines 1-6 and 0023, lines 1-4); modeling a configuration of at least one selected elevator system (0012, lines 1-10 and 0016, lines 1-5); estimating an elevator traffic pattern (0016, lines 1-5); determining sheave contact and load information using the modeled configuration and the estimated traffic pattern (0016, lines 5-10); and determining a mean degradation of the tensile support from the determined rate of degradation and the determined sheave contact and load information (i.e. a range of damage values over a plurality of positions of the rope) (0021, lines 6-14).

With respect to claim 22, Maeda discloses including programming for determining a plurality of mean degradation values by varying at least one of the modeled configuration or the estimated elevator traffic pattern (0021, lines 6-14).

With respect to claim 25, Maeda discloses using the fatigue machine to apply repeated bend cycles to the at least one sample tensile support (0020, lines 1-6).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-6, 17-20, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of U.S. Patent Application Publication No. 2004/0046540 to Robar et al.

As noted above, the invention of Maeda teaches many of the features of the claimed invention and while Maeda does teach modeling the condition of an elevator tensile support as discussed above and further includes a tension detector (0018, lines 8-11), Maeda does not specifically include determining the tension based on a measured electrical characteristic.

Robar teaches a method and apparatus for detecting elevator rope degradation using electrical energy comprising means for determining a relationship between an electrical characteristic and a selected condition of a tensile support (0049, lines 1-8) and using the determined relationship for determining an apparent electrical characteristic value corresponding to the selected condition of the tensile support (0051, lines 1-11), wherein the electrical characteristic is resistance (0049, lines 1-8). Robar teaches repeatedly determining a plurality of the apparent electrical characteristic values and using the values to determine a relationship between a

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corresponding measured electrical characteristic and a condition of a tensile support (0042, lines 1-14 and ) and subsequently measuring a resistance of at least a portion of the tensile support and using the determined relationship between resistance and the selected condition of the tensile support to determine a current condition of the tensile support (0047, lines 1-7).

It would have been obvious to one having ordinary skill in the art to modify the invention of Maeda to include determining the tension based on a measured electrical characteristic, as taught by Robar, because Maeda does teach modeling the condition of an elevator tensile support as discussed above and further includes a tension detector (0018, lines 8-11) and Robar suggests that the combination would have improved the system of Maeda by determining a measure of the tensile support indicative of tensile strength to provide means for relating the tensile condition to overall tension-load bearing strength, thereby resulting in a more accurate tensile condition determination (0003, lines 1-11, 0021, lines 1-4, and 0051, lines 1-11)

***Allowable Subject Matter***

8. Claims 7-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims because none of the cited references teach, or suggest, generating a first map from a determined mean degradation, generating a second map correlating an electrical characteristic with a selected degree of strength degradation, and

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combining the first and second maps to generate a third map correlating the electrical characteristic with a remaining strength in the tensile support, wherein the mean degradation is determined from a determined rate of degradation for a selected load, using at least one tensile support and a fatigue machine, and sheave contact and load information determined from a modeled elevator system configuration and an estimated elevator traffic pattern.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-15 and 17-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

JP Patent No. 11035246 to Ishida et al. discloses a method of modeling a condition of an elevator tensile support (0007, lines 1-4), comprising; modeling a configuration of at least one selected elevator system (0012, lines 1-8), estimating an elevator traffic pattern (0013, lines 1-17), and determining sheave contact and load information using the modeled configuration and the estimated traffic pattern (0012, lines 8-11 and 0013, lines 1-17).

U.S. Patent Application Publication No. 2002/0194935 to Clarke discloses a system for determining a condition of an elevator tensile support (0022,



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lines 2-4) comprising a device for measuring an electrical characteristic of at least a portion of a tensile support (0021, lines 1-11) and a controller that determines a current condition of the tensile support (0016, lines 5-8, 0021, lines 1-11, and 0028, line 1 to 0029, line 3) by relating the measured characteristic to a predetermined data set indicating a relationship between corresponding apparent characteristic values and conditions of the tensile support, the relationship being based upon load information (0028, lines 1-11)

U.S. Patent No. 6,260,343 to Pouradian teaches high-strength, fatigue resistant strands and wire ropes for use in lifts (column 1, lines 15-23) wherein a condition of a tensile support is determined based upon a determined rate of degradation over time of the tensile support for a constant load (column 6, line 59 to column 7, line 28).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571)272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey R. West/  
Primary Examiner, Art Unit 2857

February 5, 2010